Portland Harbor

Project Update Newsletter

Spring 2003

Introduction

The Environmental Protection Agency (EPA) added Portland Harbor to the National Priorities List in December 2000. EPA is responsible for cleanup of contaminated sediments in the river and the Oregon Department of Environmental Quality (DEQ) serves as the lead agency for cleaning up sites on the banks of the river.

Most of 2001 was dedicated to setting up a legal and organizational framework for the upcoming study of the site and contamination. The *remedial investigation and feasibility study*, a task required by the Superfund law, is underway. The investigation started in early 2002 and should take three to four years to complete. The investigation will provide project managers with information needed to make good decisions about the cleanup.

What Is Happening in 2003

The revised project work plan is anticipated in the spring of 2003. The work plan provides a road map for studying the harbor and developing alternative cleanup strategies leading to a Proposed Plan and Record of Decision.

Last June, the Lower Willamette Group (LWG) submitted the Draft Round 1 Work Plan to EPA. EPA, DEQ and the Interagency Technical Coordination Team reviewed the initial document, then asked for it to be revised and resubmitted to EPA. Technical Assistance grantee Willamette Riverkeeper also reviewed the work plan and provided written comments to EPA. In addition, the Portland Harbor Citizens Advisory Group reviewed the draft work plan and provided comments to EPA.

During spring 2003, fish tissue, river sediment and beach samples that were collected over the summer and fall of 2002 are scheduled for

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thorough and careful scientific analysis. EPA and DEQ will make sure the data meet acceptable quality assurance standards.

A field sampling plan for a second round of data gathering in 2003, by the Lower Willamette Group, is expected to be submitted to EPA for review and approval. After a preliminary review by EPA, the field-sampling plan will be available for public review.

Fish tissue data reports from the first round of sampling are planned for summer 2003. After EPA, DEQ and their intergovernmental partners receive the reports from the Lower Willamette Group, there will be a variety of public review opportunities that may include fact sheets, press releases, community meetings and open houses.

The second round of data gathering is planned for 2003. It will focus on the nature and extent of the contamination, sediment chemistry, sediment toxicity bioassays and surface water sampling. This work will enable scientists to better answer the questions about the contamination, including what chemicals are in the river, how much there is and where it is located. These studies will also help EPA understand risks to human health, fish, wildlife and the environment.

EPA and DEQ will also be studying ways to control ongoing sources of contamination to the river. Contaminants can be carried to the river by both surface runoff and groundwater.

Review of 2002

Three Sampling Efforts Completed Last Year

During 2002, contractors for the Lower Willamette Group completed the first round of data gathering on fish, sediment and riverbed structure. Samples were collected using rigorous scientific and quality assurance procedures, and the resulting data must be thoroughly analyzed to develop an accurate picture of site conditions. The project team will add information from future years to what they learned in 2002 in order to develop appropriate cleanup remedies.

Gone Fishing for Data

During July and August 2002, fish and other aquatic life were collected from sample sites throughout Portland Harbor. Species collected included juvenile Chinook salmon, brown bullhead, black crappie, carp, large-scale sucker, smallmouth bass, northern pikeminnow, peamouth, sculpin, clams and crayfish. This selection represents a broad cross section of aquatic life living in or traveling through Portland Harbor. There are many additional fish species in the Willamette River, but their feeding and movement habits are similar to individual species included in the sampling.

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Fish samples collected from the Willamette River will help assess public health and environmental risks.

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Fish were collected by three primary methods: electro-fishing, beach seining and trotlines. In addition, hook and line, standard crayfish traps, and benthic grab samplers were used to target specific species.

Both fish fillets and whole fish samples will be analyzed for pollutants that may have originated in Portland Harbor. The information will be used to determine the risk posed to people who eat fish from the Willamette River, and assess potential harm to the river ecosystem.

The fish tissue sampling results report should be available for public review by summer of 2003.

Getting to the Bottom of Things

A bathymetric survey was conducted for the Willamette River from near Ross Island down to the Columbia River from December 13, 2001 to January 14, 2002. This technology uses sonar to get an accurate picture of the depth and contours of the riverbed. The bathymetry helps scientists understand how sediments move in the river, where they are being deposited and removed by river currents, and how flooding and storm events affect the river bottom.

A contractor for the Lower Willamette Group used a multibeam sonar which records up to 101 soundings in a single sonar ping to get highly detailed data about the contours of the river bottom.

A draft bathymetric survey report was submitted to EPA on April 26, 2002. Additional bathymetric surveys are planned over the next couple of years. Bathymetric work takes place over a couple of years to provide information on how the riverbed changes over time. The bathymetric survey produced both full-sized drawings and digital images. If you would like to see 3-D video of the river channel, contact Judy Smith at EPA and request a CD copy of the 7-minute overview of Portland Harbor developed by the Lower Willamette Group.

Getting a Picture of Sediment Characteristics

Sediment profile imaging was conducted from November 28 to December 11, 2001 and a draft report was submitted to EPA in April 2002. A sediment profile camera was used to take pictures of cross-sections of the sediment. Photographs were taken at over 500 sample locations in the Willamette River between Ross Island and the Columbia River.

Data gathered during this sediment survey include grain size, depth, feeding voids excavated by benthic organisms, insects, presence of methane gas, and other technical information.

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What are Benthos and Why are They Important?

Things that live in the sediment at the bottom of a river are known at "benthos" and are sometimes called "benthic invertebrates." Some of the benthos you may have heard of include crayfish, segmented worms and midge larvae.

Because the primary concern at the Portland Harbor Superfund Site is contaminated sediment, it is important to identify what benthos are present and where they are located. These bottom dwelling critters feed in the sediment, so contamination such as metals, pesticides and polychlorinated biphenyls (PCBs) can accumulate in their body tissues. When fish, wildlife or people catch and eat contaminated benthos, they can absorb the toxins. Scientists refer to this process as "bioaccumulation." Some pollutants, like PCBs, become more concentrated as they move up the food chain. This is referred to as "biomagnification." Bioaccumulation and biomagnification may lead to dangerous contaminant exposures for fish consumers, like people and bald eagles.

In order to protect people, fish and wildlife from hazardous substances in the sediment, we must learn about the risk to and from benthos. In some cases, the health department might issue a fish consumption advisory to let the community know about the risk of eating certain benthos or organisms that prey upon them.

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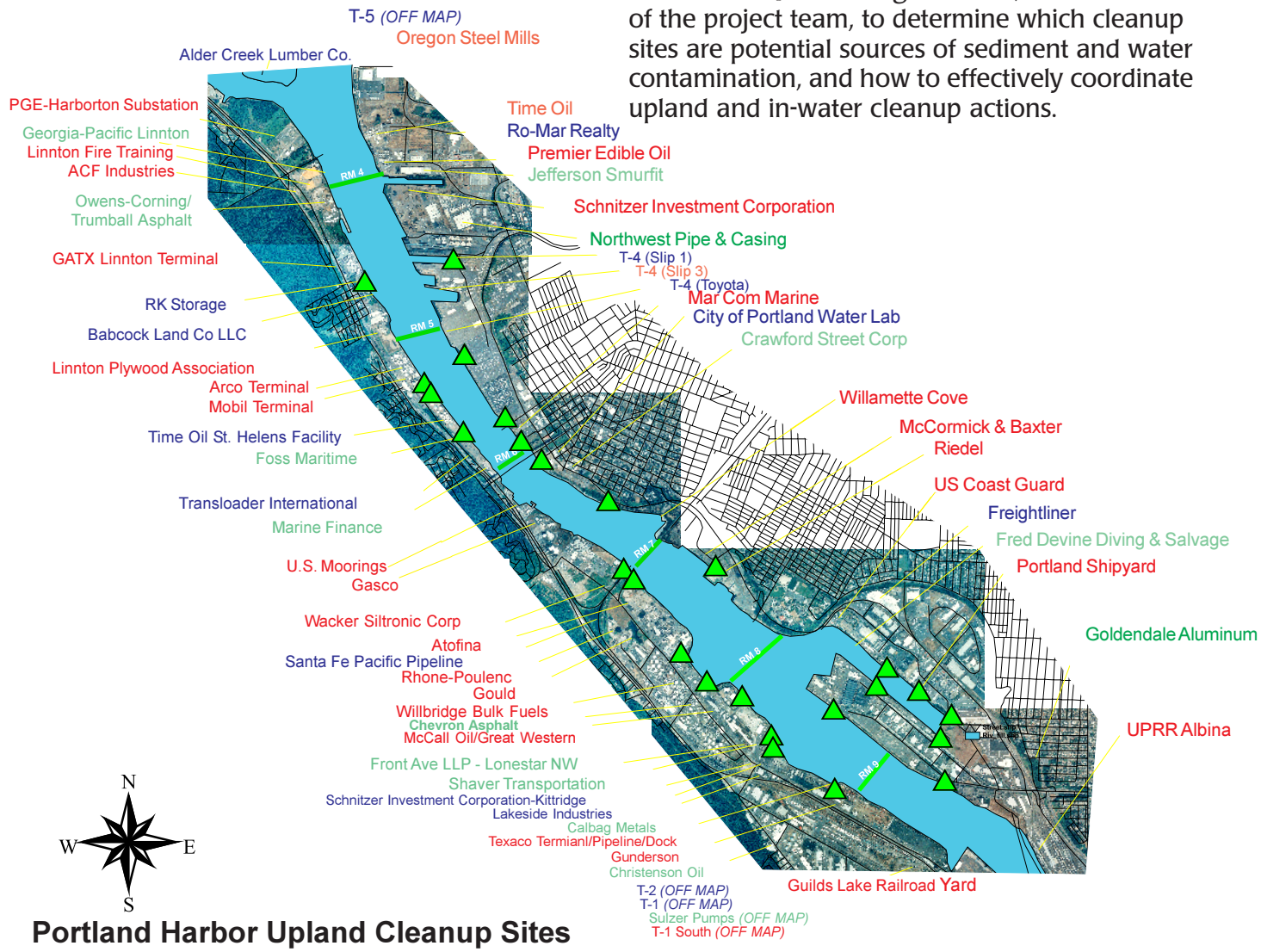
Observers also noted the presence of debris or organisms within the sediment column, sediment textures and features, organic content and how sediment is sorted and layered. In addition, the data provide a look at river dynamics such as whether the sediment is being eroded, being deposited, or is stable.

This sediment profiling information will be used to assess river bottom conditions, and evaluate the general quality of benthic habitat. This information may also be used to look at potential changes over time, by comparing it with earlier studies. Sediment profiling was originally developed for marine areas, and Portland Harbor was the first large-scale use of this technology in a large freshwater river system.

Uplands Update

As a key partner in the Superfund cleanup, DEQ is responsible for managing cleanup activities on the shores and upland areas of Portland Harbor. As of January 2003, DEQ is working with property owners on over 70 sites, including 44 high-priority sites. The work ranges from the very early stages of investigations to active cleanup actions. Check out the Portland Harbor site map to get an idea of the scope of the upland project. The electronic version of this map, at www.deq.state.or.us/nwr/phmap.pdf, allows you to click directly on the map for site-specific cleanup information.

The goal of DEQ's upland work is to identify and eliminate sources of contamination to Portland Harbor. DEQ is working with EPA, and the rest of the project team, to determine which cleanup sites are potential sources of sediment and water contamination, and how to effectively coordinate upland and in-water cleanup actions.



Portland Harbor Upland Cleanup Sites

▲ City of Portland BES Outfalls (26)

Construction Begins at McCormick & Baxter

The McCormick & Baxter Creosoting Company site, located just south of Willamette Cove, near the University of Portland, was placed on EPA's National Priorities List (NPL) in 1994. It is located within the area of Portland Harbor Superfund Site, which was listed in 2000. Through an agreement with EPA, DEQ is leading the cleanup at McCormick & Baxter.

Over 33,000 tons of contaminated soil and debris and 1,950 gallons of creosote have been removed from the McCormick & Baxter site, but creosote continues to contaminate the Willamette River. EPA and DEQ will install an underground barrier wall encircling contaminated soils, to reduce the amount of creosote from migrating into the river. The barrier is an 80-foot deep buried metal wall along the riverfront, and an inland trench filled with an impermeable clay mixture.

Construction of the barrier wall begins April 2003 and should be completed by mid-summer. Work will take place weekdays between 7:00 am and 5:30 pm.

During the first two weeks in April, neighbors can expect about 15 trucks per day, traveling to and from the site via North Edgewater St. The trucks will bring in loads of material and equipment. The trucks will travel to and from Interstate 5, along North Columbia Boulevard and North Portsmouth Avenue.

Contractors will install 1,400 linear feet of interlocking sheetpile along the riverbank of McCormick & Baxter. Similar to installing individual pilings, this involves driving the 80-foot sheetpiles into the ground. To lessen impacts to the nearby residential community, noise generating activities will not begin before 7:30 am. The contractors are using a vibratory method to install the sheetpiles, instead of the traditional hammer method. Noise levels at the riverbank are expected to be 90-95 decibels. Noise levels at the nearest residences, some 1,000 feet away, are expected to be under 60 decibels, the volume of a person talking.

In addition to the barrier wall, DEQ is working on the final design for a permanent sediment cap to protect the river from the underlying contamination. Installation of the sediment cap will begin in the summer of 2004. Design work will begin soon for the protective soil cap that will cover the surface of the site, and make it safe for people and wildlife.

❖ ❖ ❖ ❖ ❖ Hear about McCormick & Baxter on March 20th ❖ ❖ ❖ ❖ ❖

Come to the public information meeting to learn more about the construction and the continuing cleanup of McCormick & Baxter and to find out how you can participate in the design process that lays the groundwork for future public use of McCormick & Baxter. The Portland Harbor Citizen's Advisory Group will be on hand to invite public participation in the Harbor cleanup process.

Thursday, March 20th, 7- 8:30 pm
University of Portland
Buckley Center

For information, contact Kevin Parrett, Project Manager, 503-229-6748, parrett.kevin@deq.state.or.us

Visit our website:
http://www.deq.state.or.us/nwr/mccormick.htm

City of Portland and DEQ kick off Stormwater Pilot Project

The City of Portland operates 17 stormwater outfalls within Portland Harbor. These outfalls transport stormwater draining from city-owned rights-of-way and from private property, including local industry. City outfalls have been identified as a potential source of sediment and water contamination in the Harbor because stormwater may pick up and transport soil and contaminants such as metals, paint, oil, grease, and chemicals to the river.

DEQ and the City are working together on a pilot project at the M-1 outfall on Swan Island to investigate and control sources of contamination entering the storm drains. The goal of the pilot project is to minimize potential recontamination of sediments after the Superfund cleanup is completed.

The pilot project has three key components. First, DEQ technical assistance staff are visiting sites to help business owners develop proper waste management procedures and use best management practices to reduce or eliminate potential sources of contamination to the river.

Second, the City of Portland Bureau of Environmental Services Industrial Storm Water Program is inspecting industrial facilities whose operations may contaminate storm water runoff.

Third, the City is helping these facilities identify best management practices to minimize pollutants in storm water runoff. In some cases, a facility may be required to obtain a storm water permit. DEQ's Cleanup Program staff continue to assess whether current and historical property uses could contribute contamination to the river and whether further investigation is needed.

Results of the pilot project will be used to help DEQ and the City expand the interagency source control effort for the rest of Portland Harbor.

Cleanup Remedy Proposed for Port of Portland Terminal 4, Slip 3

The Port of Portland Terminal 4 facility is located along the east bank of the Willamette, near River Mile 5. Historically, Slip 3 was used in part as a bulk fuel transfer facility, moving diesel from marine vessels through a 1,500 foot underground pipeline to tanks owned by Union Pacific railroad at the east side of the property.

Fuel transfer operations ceased in 1983, however, pipeline leaks have released petroleum to soil and groundwater at the site.

The Port of Portland entered a Voluntary Cleanup agreement with DEQ in 1998, and completed the remedial investigation in 2000. In April 2002, DEQ reviewed and approved the Port's feasibility study, which identifies different cleanup options.

After evaluating the options presented in the feasibility study, DEQ proposed a final cleanup remedy for the upland area. The recommended cleanup includes pumping and treating groundwater to remove petroleum contamination, and excavating contaminated riverbank soil in Slip 3 and disposing of it at a location off-site. In addition, the presence of residual contamination in the soil will be documented to protect future site workers.

The remedy is designed to protect human health and eliminate harmful migration of petroleum products into the Willamette River. DEQ will consider feedback gathered during the public comment on the proposed remedy and incorporate it into the Record of Decision, expected to be issued by the end of March 2003.

Contaminated sediments in the river are being evaluated separately as part of the EPA Portland Harbor in-water cleanup investigation.

Citizens Advisory Group

Since forming last spring, the Portland Harbor Citizens Advisory Group has played an active role in making sure community concerns are considered during the early stages of the remedial investigation. This dedicated group of volunteers is made up of a diverse group of community members representing neighborhoods, environment, recreation, business, health and the community-at-large. The group reviewed the draft Round 1 Work Plan and provided feedback to DEQ and EPA. During the first week of February, the group held a press conference to introduce themselves, share their issues of concern and encourage citizen participation in the Portland Harbor investigation and cleanup.

Superfund Citizens Advisory Groups are made up of members of the community and are designed to serve as the focal point for the exchange of information among the local community and EPA, the State regulatory agency, and other Federal agencies involved in cleanup of the Superfund site.

The Portland Harbor Citizens Advisory Group meets on the second Wednesday of every month at NE 800 Oregon Street in Portland from 6 to 8 p.m. The next meeting is March 12. For information about the CAG contact Joe Keating at keats@teleport.com, or Willamette Riverkeeper at 503-223-6418.

PHCAG Mission statement: To ensure a Portland Harbor Cleanup that restores, enriches and protects the environment for fish, wildlife, human health and recreation through community participation.

Can Someone From EPA or DEQ come talk to our group about Portland Harbor?
Yes! The exchange of information between project staff and the community is very important to the long-term success of the cleanup. Contact Judy Smith or Fenix Grange using the information listed on page 8 to set up a time for a meeting.

Who Is Working on Portland Harbor:

Interagency Technical Coordination Team: A group of government agencies and tribes who are combining expertise during the investigation and cleanup of Portland Harbor. A Memorandum of Understanding outlining responsibilities and processes was signed in 2001 by the following parties:

Oregon Department of Environmental Quality
U.S. Fish and Wildlife Service
National Oceanic and Atmospheric Administration
Oregon Department of Fish and Wildlife
Confederated Tribes and Bands of the Yakama Nation
Confederated Tribes of the Grand Ronde Community of Oregon
Confederated Tribes of Siletz Indians
Confederated Tribes of the Umatilla Indian Reservation
Confederated Tribes of the Warm Springs Reservation of Oregon
Nez Perce Tribe
Oregon Department of Human Services

Lower Willamette Group: A group of potentially responsible parties from business, industry and public agencies who have entered into a consent order with EPA to conduct the remedial investigation and feasibility study under EPA oversight. The group consists of:

ATOFINA Chemicals, Inc.
Chevron U.S.A. Inc.
Gunderson, Inc.
Northwest Natural Gas
City of Portland
Port of Portland
Time Oil Co.
Tosco Corporation
Union Pacific Railroad Company
Oregon Steel Mills

Citizens Advisory Group: A group of community members who are volunteering time and effort to make sure community concerns are considered during the investigation and cleanup.

Technical Assistance Grantee: Willamette Riverkeeper received a grant from EPA to review technical information on the project and interpret and share it with the community.

Where to Find More Information

EPA Team Contact Information

Judy Smith
Community Involvement Coordinator
503-326-6994, Portland
smith.judy@epa.gov

Chip Humphrey
Remedial Project Manager
503-326-2678, Portland
humphrey.chip@epa.gov

Tara Martich
Remedial Project Manager
206-553-0039, Seattle
martich.tara@epa.gov

DEQ Team Contact Information

Fenix Grange
Project Coordinator
503-229-6590
grange.fenix@deq.state.or.us

Jim Anderson
Project Coordinator
503-229-6825
anderson.jim@deq.state.or.us

EPA's Portland Harbor web site:
http://www.epa.gov/r10earth/
DEQ's Portland Harbor website:
http://www.deq.state.or.us/nwr/ph.htm

United States Environmental Protection Agency

Oregon Department of Environmental Quality

USEPA Region10 Community Involvement and Outreach
1200 Sixth Avenue, ECO-081
Seattle, Washington 98101-1128

PORTLAND HARBOR PROJECT UPDATE

COME TO A PUBLIC INFORMATION MEETING ON MARCH 20, 2003